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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,036	03/15/2004	Seok Dong Kang	YHK-0089.1	6860
34610	7590	12/01/2006	EXAMINER	
FLESHNER & KIM, LLP P.O. BOX 221200 CHANTILLY, VA 20153			QUARTERMAN, KEVIN J	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 12/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/800,036

Applicant(s)

KANG, SEOK DONG

Examiner

Kevin Quarterman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 12-19 and 21-47 is/are rejected.
- 7) ☒ Claim(s) 2, 7-11, 20 and 39 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 10/291,605.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 0906.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Response to Amendment***

1. Applicant's amendment and remarks received 05 September 2006 have been entered.

***Information Disclosure Statement***

2. The information disclosure statements filed 03 July 2006 and 11 September 2006 fail to comply with 37 CFR 1.98(a)(1), which requires the following: (1) a list of all patents, publications, applications, or other information submitted for consideration by the Office; (2) U.S. patents and U.S. patent application publications listed in a section separately from citations of other documents; (3) the application number of the application in which the information disclosure statement is being submitted on each page of the list; (4) a column that provides a blank space next to each document to be considered, for the examiner's initials; and (5) a heading that clearly indicates that the list is an information disclosure statement. The information disclosure statement has been placed in the application file, but the information referred to therein has not been considered.

***Specification***

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
4. The following title is suggested: --PLASMA DISPLAY PANEL WITH MULTIPLE SHIELDING LAYERS--.

### ***Drawings***

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Reference character "41" of Figure 5 is not mentioned in the description. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

6. Claims 2 and 39 are objected to because of the following informalities: The term "light" should precede the second occurrence of the term "shielding" in the second line of the claim to be consistent with independent claim 1.

7. Claim 39 recites the limitation "the column electrodes" in the 8<sup>th</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim, since this is the first recitation of column electrodes in the claim.

8. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claims 15 and 21-47 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

11. Independent claim 15 has been amended to include limitations of “a plurality of pairs of row electrodes extending horizontally and arranged on an internal surface of the first substrate” and “a plurality of column electrodes extending vertically and arranged on an internal surface of the second substrate.” There is no recitation of “row electrodes” or “column electrodes” in the instant application. There are multiple electrodes—e.g., transparent electrode, bus electrodes, conductive black layers—shown arranged on the internal surface of the first substrate. It is not clear which electrode is the “row electrode” in the claim.

12. Therefore, independent claim 15 includes subject matter that is deemed **new matter**, since it was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Due to their dependency upon

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independent claim 15, claims 21-38 are also rejected for failing to comply with the written description requirement.

13. New independent claim 39 includes a limitation that the “the plurality of black layers include a first black layer formed under the row electrodes and the first substrate.” The Examiner notes that the “row electrodes” generally include, both, the transparent electrode and the bus electrode. The drawings of the instant application show the first black layer being formed between the transparent electrode and the bus electrode but not under the “row electrode”, and the specification does not mention the first black layer being formed under “row electrodes” and the first substrate. The Examiner also notes that there is no recitation of “row electrodes” or “column electrodes” in the instant application.

14. Thus, independent claim 39 includes subject matter that is deemed **new matter**. Due to their dependency upon independent claim 39, claims 40-47 are also rejected for failing to comply with the written description requirement.

15. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

16. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

17. Claim 13 includes a limitation of the pigment including a ruthenium oxide  $Ru_xO_y$ . The subscripts “x” and “y” are not defined in the claim.

***Claim Rejections - 35 USC § 102***

18. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

19. Claims 1-5, 12, 16-17, 19, 39-43, and 47 are rejected under 35 U.S.C. 102(b) as being anticipated by Amemiya (US 2001/0011871).

20. Regarding independent claim 1, Figure 2 of Amemiya shows a plasma display panel comprising a transparent electrode (Xa); a metal bus (Xb''); a first light-shielding layer (Xb') formed between the transparent electrode and the metal bus electrode on each discharge cell; and a second light-shielding layer (30) formed between the adjacent discharge cells, wherein the first light-shielding layer and the second light-shielding layer are different from each other in at least one of a thickness thereof and a concentration of a pigment thereof.

21. Regarding claim 2, Figure 2 of Amemiya shows the first light-shielding layer and the second shielding layer being connected to each other.

22. Regarding claim 3, Figure 2 of Amemiya shows a substrate (10) having the transparent electrode formed thereon, wherein the second light-shielding layer is commonly connected to the transparent electrodes formed in each of the adjacent discharge cells.

23. Regarding claim 4, Figure 2 of Amemiya shows a substrate (10) having the transparent electrode formed thereon, wherein the second light-shielding layer is

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electrically connected to the transparent electrodes formed in each of the adjacent discharge cells.

24. Regarding claim 5, Figure 2 of Amemiya shows the thickness of the first light-shielding layer being thinner than the thickness of the second light-shielding layer.

25. Regarding claim 12, Amemiya discloses the pigment of the first light-shielding layer comprising a conductive pigment (pg. 7, ¶ [0139]).

26. Regarding independent claim 16, Figure 2 of Amemiya shows a plasma display panel comprising a transparent electrode (Xa); a metal bus (Xb''); a first light-shielding layer (Xb') formed between the transparent electrode and the metal bus electrode on each discharge cell; and a second light-shielding layer (30) formed between the adjacent discharge cells, wherein each of the first and second light-shielding layers has a different light-shielding ratio from each other.

27. Regarding claim 17, Figure 2 of Amemiya shows the light-shielding ratio of the first light-shielding layer being lower than the light-shielding ratio of the second light-shielding layer.

28. Regarding claim 19, Figure 2 of Amemiya shows the first light-shielding layer and the second light-shielding layer being different from each other in at least one of a thickness and a pigment concentration.

29. Regarding independent claim 39, Figure 2 of Amemiya shows a color plasma display panel comprising a pair of first and second substrates (10, 13) spaced parallel to each other and sandwiching a discharge gas space (C) filled with a discharge gas; a plurality of pairs of row electrodes (X, Y) extending horizontally and arranged on an



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internal surface of the first substrate (10); a dielectric layer (11) formed on the internal surface of the first substrate and the plurality of pairs of row electrodes; and a plurality of the column electrodes (D) extending vertically and arranged on an internal surface of the second substrate, wherein the dielectric layer includes a plurality of black layers (Xb', Yb', 30) between two vertically adjacent discharge cells, the plurality of black layers include a first black layer (Xb', Yb') formed under the row electrodes and the first substrate, and a second black layer (30) formed outside of the row electrodes, and at least one portion of the first black layer having a same thickness as the second black layer.

30. Regarding claim 40, Figure 2 of Amemiya shows at least one of the row electrodes comprising a metal bus electrode and a transparent electrode.

31. Regarding claim 41, Figure 2 of Amemiya shows the first black layer formed between the metal bus electrode and the transparent electrode.

32. Regarding claim 42, Figure 2 of Amemiya shows a color of the first black layer being darker than the metal bus electrode.

33. Regarding claim 43, Figure 2 of Amemiya shows the first black layer having a relatively low conductivity as compared to the metal bus electrode.

34. Regarding claim 47, Figure 2 of Amemiya shows the first black layer connected to the second black layer.

### ***Claim Rejections - 35 USC § 103***

35. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

36. Claims 6, 14, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amemiya (US 2001/0011871).

37. Regarding claim 6, Amemiya teaches the limitation of claim 5 discussed earlier but fails to exemplify the thickness of the first light-shielding layer being thinner by about  $0.1\mu\text{m} \sim 2\mu\text{m}$  than the thickness of the second light-shielding layer.

38. However, Figure 2 of Amemiya shows the thickness of the first light-shielding layer (Xb') being thinner the thickness of the second light-shielding layer (30).

39. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to the device of Amemiya with a first light-shielding layer being thinner by about  $0.1\mu\text{m} \sim 2\mu\text{m}$  than the thickness of the second light-shielding layer, since where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation (MPEP 2144.05 II).

40. Regarding claim 14, Amemiya teaches the limitation of claim 12 discussed earlier but fails to exemplify the concentration of the pigment in the first light-shielding layer being about 60% ~ 69%.

41. It would have been obvious to one having ordinary skill in the art at the time the invention was made to the device of Amemiya with a concentration of pigment in the first light-shielding layer being about 60% ~ 69%, since where the general conditions of

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a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation (MPEP 2144.05 II).

42. Regarding claim 18, Amemiya teaches the limitation of claim 12 discussed earlier but fails to exemplify the light-shielding ratio of the first light-shielding layer being lower by 0.1% ~ 5% than the light-shielding ratio of the second light-shielding layer.

43. However, Figure 2 of Amemiya shows the thickness of the first light-shielding layer (Xb') being thinner the thickness of the second light-shielding layer (30), which is disclosed by applicant as one factor that determines the light-shielding ratio.

44. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to the device of Amemiya with a light-shielding ratio of the first light-shielding layer being lower by 0.1% ~ 5% than the light-shielding ratio of the second light-shielding layer, since where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation (MPEP 2144.05 II).

#### ***Allowable Subject Matter***

45. Claims 7-11 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

46. Regarding claims 7 and 20, the prior art of record neither shows or suggests a plasma display panel comprising, in addition to other limitations of the claim, the pigment concentration of the first light-shielding layer being lower than the pigment

concentration of the second light-shielding layer. Due to its dependency upon claim 7, claim 8 is also allowable.

47. Regarding claim 9, the prior art of record neither shows or suggests a plasma display panel comprising, in addition to other limitations of the claim, the pigment of the first and the second light-shielding layers being a non-conductive pigment. Due to their dependency upon claim 9, claims 10-11 are also allowable.

### ***Response to Arguments***

48. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

49. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tokunaga (US 6,486,611) discloses a plasma display device with shielding layers.

**Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Quarterman whose telephone number is (571) 272-2461. The examiner can normally be reached on M-TH (7-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kevin Quarterman  
Examiner  
Art Unit 2879

kq   
21 November 2006

  
**MARICELI SANTIAGO**  
**PRIMARY EXAMINER**